Georgia Basin/Puget Sound Air Quality Modelling

Colin di Cenzo
Environment Canada

Abstract

"What is the significance of Canada/United States transboundary air pollution on ambient air quality over the Georgia Basin/Puget Sound airshed?" and "What are the impacts of the forecast changes in pollutant emissions?"

The answers to these two questions are of interest to both policy-makers and scientists. The region is subject to continuing population growth that requires continued vigilance and action to maintain and improve air quality. Medical health officials have strongly encouraged air quality agencies to focus on ambient air quality conditions as most relevant to human exposure. The complex terrain and marine environment pose unique challenges for scientists.

In May 2000, a number of universities and federal, provincial/state, and local agencies (the consortium) met and agreed to a number of common standards and protocols for studying and numerically simulating air quality over the Pacific Northwest.

The consortium adopted a common mapping projection and file format, developed a joint emissions inventory, and suggested the application of the Community Mesoscale Air Quality (CMAQ) model to the airshed. In August 2001 the group participated in an extensive air quality field study (known as Pacific2001) across the Georgia Basin/Puget Sound airshed. Information gained from the study is critical to the validation of the CMAQ model for use over the Pacific Northwest.

In the last year, Environment Canada and its partners in the consortium have taken steps towards both validating CMAQ and in using CMAQ to answer the "two questions." This presentation will provide preliminary information on the success these endeavours.